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November 16, 2004

Ms. Marilyn Weiss
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53707-7854

Subject: Forward Energy Wind Energy Center: PSC Docket 9300-CE-100

Dear Marilyn:

Consistent with the PSC/DNR Cooperative Agreement, I am writing to provide you with our comments about the completeness of Forward Wind's submittals relating to issues that should be evaluated in the Commission's Environmental Impact Statement (EIS) for this proposal. The Department has reviewed materials in the application and supporting responses describing the above-referenced project in regard to the potential for impacts on wildlife resources subject to DNR management responsibility.

The Department is responsible for managing the wildlife resources of the State to benefit the public, and to maintain the integrity of the ecosystems. We also manage hunting of waterfowl and upland game birds, many of which are likely to be present in the landscape in which this project is proposed. Further, studies in Wisconsin, and other states, have shown that wind farms have impacts on birds and bats in particular, that include direct mortality due to collision with wind facilities, and behavioral impacts such as exclusion from the area surrounding the turbines and disruption of the courting activities of certain species.

In order to provide enough information to prepare an EIS for this project, an appropriate level of characterization of the affected natural environment must be provided. We have reviewed the bird and bat studies prepared for Forward Wind, and note that they are primarily literature reviews, and include only limited characterization of the actual use of the project area by birds and bats (based primarily on one brief site visit in April, 2004). There is also limited description of the habitat resources in the area that tend to hold or direct the movements of wildlife species. This is especially true in the case of bats. A Phase 1 study, such as those submitted for birds and bats at this location, is a valuable planning tool in the early stages of designing a project such as this. It can identify areas that should be avoided based on high wildlife use, and those that should be studied further to evaluate whether they pose a collision risk, or may exclude birds from important habitat resources.

However, if only a Phase 1 study is submitted in support of this application, the reviewing agencies can only speculate on how accurately the distribution and variability of wildlife use has been characterized, and thus, how reliable are the conclusions of the study. The quotes from the reports by Dr. Kerlinger which I have included below support this conclusion.

As noted in those reports, a major bat hibernaculum, the Neda Mine, is located about 10 miles south of this facility. During certain periods of the spring and fall, hundreds of thousands of bats inhabit the vicinity of the mine. Recent reports of bat casualties in the Eastern U.S., demonstrate that there is reason to be concerned that large numbers of bat fatalities are possible. We suspect that large numbers of these bats may be using the landscape resources in a large area up and down the Niagara Escarpment for travel and feeding. Bat experts tell us that the bats tend to follow linear features, such as fencerow vegetation, moving cross-country to feed at sources of their insect prey. The characterization study submitted by Forward Wind lacks sufficient description of these resources to allow an evaluation of the risk to bats foraging in the area proposed for turbine installation.

In regard to birds, the Dr. Kerlinger's report makes the following statement: "Migration of waterfowl and other waterbirds over the Project area is likely to be greater than most other areas of Wisconsin because of the proximity of the site to the Horicon and Theresa Marshes. Large numbers of waterfowl migrate into and out of Horicon and Theresa Marsh and forage during migration in nearby farm fields. Use of the general area is likely to be high with ducks and geese regularly present around the Project area in spring and fall. This suggests some risk to these species that is discussed further in this assessment." Given the close proximity to Horicon Marsh of the southwestern turbines, the characterization of avian usage and risk is only given a superficial treatment in the application.

Dr. Kerlinger also states that at least 1 species of concern, Northern Harrier, may be nesting within the Project area boundary, suggesting that a spring survey be done to confirm nesting and delineate its territory. In addition, the Horicon and Theresa Marshes are both suitable habitats for some listed and rare species, which are listed in the appendices to the application. If the project is approved before this information has been gathered, there is a risk that the impacts to these species will not be adequately evaluated and addressed. The presence of an experimental flock of whooping cranes in Wisconsin also suggests a potential risk to that species, should a natural or human-introduced flock become established at Horicon Marsh. This potential risk should be evaluated based on information about utility structure interactions with whooping cranes and sandhill cranes.

The DNR recommends that the risks Dr. Kerlinger refers to should be characterized in greater detail, preferably based upon adequate monitoring of bird activity, especially flight patterns, over an adequate period of time (two years would be a reasonable duration, unless other site-specific data from reliable observations, such as the Audubon Society bird counts cited by Dr. Kerlinger, were adequate). Since the applicant's studies indicate that such data do not cover the site itself, we recommend that the application should adequately discuss the uncertainties related to bird use, and the potential for underestimating risks. DNR experts should be able to assist the PSC in this matter.

To further quote Dr. Kerlinger: "Population modeling of waterbird collision fatalities (e.g., population viability analyses) would provide an indication as to whether biologically significant risk is likely to occur to some of those species. Such models would examine the potential for significant declines of species based on realistic levels of collision fatalities derived from other wind power projects." The DNR endorses this approach to better characterize the risk posed by this facility. We hope that models currently available could be used to provide a timely answer to this question.

Ultimately, in the absence of more detailed site-specific observations, we feel that the most prudent course would be to redesign the layout of this facility to increase the set-back from the marsh edge by one or more additional miles. This would necessitate relocating some of the more south-westerly turbines, in effect shifting the facility footprint to the east. An alternative approach would be to phase the installation of the turbines from East to West. If appropriate monitoring of avian interactions demonstrates that substantial numbers of birds and bats are not being affected by the turbines, then more turbines could be installed further to the west within the project boundary (again coupled with adequate monitoring to

confirm the actual level of risk). If the applicant wishes to propose additional measures to reduce wildlife risk, we would be happy to consider them.

A similar observation applies to use of the landscape by several species of bats. We have good data regarding the cave bat's seasonal use of the Neda Mine, but little data regarding their use of the surrounding landscape. This applies to both the seasonally large numbers of cave bats that hibernate in the mine, and the base level of landscape use during the breeding season by both cave bats and tree bats.

We do know that bats tend to follow wooded corridors in moving about the landscape. Therefore, an assessment of the degree of connectivity provided by fencerows, woodlots and other lines of cover would help to evaluate the risk to bats imposed by installing a substantial number of wind turbines in the area. DNR specialists would be available to work with Forward Wind's consultants to help design an adequate evaluation. The alternative would be to make a highly conservative assumption that the hundreds of thousands of bats using the hibernaculum are distributed randomly throughout the surrounding landscape. We recommend that the PSC consult with a bat expert to help flesh out this discussion. We should be able to work with you, as Bureau of Endangered Resources has recently hired a person with this expertise (Dave Redell).

There is also a related concern about the visual impact of the facility on persons viewing birds at the marsh. We recommend that the company prepare visual simulations of views from commonly-used observation points, especially in the northern quarter of the marsh (primarily the Federal refuge).

In summary, the DNR has concluded:

- The application does not provide sufficient information to evaluate the magnitude and significance of the project's impacts to wildlife
- Adequate site-specific monitoring information is needed to assess these impacts
- Qualitative and semi-quantitative information can be provided by local DNR and FWS experts
- DNR biologists are concerned that the western boundary of the project may be too close to Horicon Marsh, and better information is needed to resolve this concern
- The company should seriously consider increasing the setback from the Marsh, and/or phasing construction from East to West, coupled with adequate monitoring to verify wildlife impacts
- Other measures, such as operational restrictions, visual collision deterrents, and landscape management to redirect bird use, should also be evaluated
- Survey and monitoring plans should be developed consistent with the Draft USFWS Guidelines for wind facility siting, and reviewed by DNR and FWS biologists.

In closing, let me reiterate the DNR's intent to work in close cooperation with the Commission's staff to ensure that these issues are adequately disclosed in the EIS for this project. We will provide text for those sections consistent with the PSC/DNR Cooperative Agreement. However, this can only occur when the applicant has provided complete information, as indicated in PSC's WEPA regulations and the Power Plant Siting Law. If you wish to discuss this further, please feel free to call me at 266-6673.

Sincerely,

Steven Ugoretz
Office of Energy

Cc: Dave Siebert – OE/7
Shari Koslowski – OE/7
Russ Anderson – SCR – Fitchburg
Dave Redell – ER/6
Sumner Matteson – ER/6
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